



Watershed Classroom

Biodiversity in Our Changing Environment

A Project of: Michal Buchmann, Kim Tay, Tom Kinney, Kelly Holly, Leroy Lounibos and Kevin Harrington

Content Standards addressed:

1. Integrate multiple sources of information presented in diverse media or formats (e.g., visually, quantitatively, orally) evaluating the credibility and accuracy of each source.
2. Present information, findings, and supporting evidence conveying a clear and distinct perspective and a logical argument, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. Use appropriate eye contact, adequate volume, and clear pronunciation.
3. Biodiversity is increased by the formation of new species (speciation) and decreased by the loss of species (extinction). (secondary to HS-LS2-7) Humans depend on the living world for the resources and other benefits provided by biodiversity. But human activity is also having adverse impacts on biodiversity through overpopulation, overexploitation, habitat destruction, pollution, introduction of invasive species, and climate change. Thus sustaining biodiversity so that ecosystem functioning and productivity are maintained is essential to supporting and enhancing life on Earth. Sustaining biodiversity also aids humanity by preserving landscapes of recreational or inspirational value.

Reading Tasks: What primary documents and informational texts will be read/analyzed?:

1. Petersen field guides
2. Growing Your Own Drugs by James Wond
3. Medicinal Plants of the Pacific West by Michael Moore
4. Herbs for the Home Medicine Chest by Rosemary Gladstar
5. Herbal Medicine Making by Karen Aguiar and Terri Jensen

Writing Tasks: What kinds of writing tasks (Arguments and Drawing Evidence) will be required?:

1. Students will be creating a field guide using information from field

observations and research on native plants and animals.

2. Students will be writing a persuasive essay on the effects of global warming on the flora and fauna of Shollenberger Park.
3. World History students learn that for hundreds of thousand years, Paleolithic man was a mobile animal, moving from place to place foraging for food and medicinal plants. About 10,000 years ago, mobile man stopped and observed that these plants were generally immobile, rooted to the ground, and nurtured by sunlight and soil. From this point on man became sedentary and agrarian. World History students learn that at this point, history became stories of cities, kings, laws, religions, commerce, art, political ideologies, advanced technologies, and wars. All of which, brought wave after wave of change and adaptation. Today, World History students must consider and learn how global warming will impact a future in which the current abundance and variety of plants are no longer available.
4. Students will integrate information from diverse sources, both primary and secondary, into a coherent understanding of how plants can improve their own health.
5. Students will plan and write a nutritional guide identifying the plants and their contributions to the body's recovery process following exercise.

Collaboration: How will students collaborate, communicate and organize together

(Speaking and Listening/Discussion): 1. Students will participate in a field trip to Shollenberger Park to observe and collect data on the plant and animal life.

2. Students will work in small groups in Science classes to create a survival first aid kit.
3. Students will work together and present their field guide in small groups.
4. Students will share their findings and their field guides with an elementary class.

Integration of Media Sources and Skills: How will students use technology for research, communication, documentation and or presentation purposes?:

1. Students will use Chrome books to research information for their field guides.
2. Students will use laptop and LCD projector to share presentations using "Animoto" or powerpoint.
3. Students will use their phones to take pictures and record voice memos during their field observations at Shollenberger.
4. Students will use data phones and apps to track physical exertion during their hike at Shollenberger.

CA Core Standards-based Assessments: How will students demonstrate their acquisition of new knowledge and skills?:

1. Students will instruct elementary students on how to make plant pressings using photo-sensitive paper.
2. Students will guide elementary students to write a descriptive or narrative paragraph about their plant.

Presentation of Knowledge/Student Public Forum: 1. Students will evaluate what they learn through their field guides and survival kits.

2. Students will reflect upon their experience with elementary students .
3. Students will imagine the impact of global warming on Shollenberger Park.
4. Students will present a fitness and nutritional plan to maintain their health while minimally impacting the environment.